

A beautiful but deadly predator stalks the Gulf of Mexico

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A lionfish in a picture taken at the Zoo Schönbrunn, Vienna, Austria. Christian Mehlführer/Wikimedia Commons

GALVESTON, Texas — It sounds like something from a horror movie: A beautiful, feathery-looking species of fish but with venomous spines and a ferocious appetite sweeps into the Gulf of Mexico, devouring everything in its path.

Unfortunately for the native fish and mollusks it's eating, this attack isn't unfolding on the big screen.

News has been spreading of lionfish, a maroon-and-white striped native of the South Pacific that first showed up off the coast of southern Florida in 1985. Most likely, someone dumped a few out of a home fish tank. Since then, the fish have swept up the Eastern seaboard and down to the Bahamas, thanks to very high reproduction rates and no natural predators.

Lionfish now are more common in the Bahamas than their home waters.

Sporting Stripes And Spines

“The invasive lionfish have been nearly a perfect predator,” says Martha Klitzkie, director of operations at the Reef Environmental Education Foundation (REEF) in Key Largo, Florida. “They’re moving into new areas and, when they get settled, the population increases pretty quickly.”

The lionfish population exploded in the Florida Keys and the Bahamas between 2004 and 2010. As lionfish populations boomed, the number of native prey fish dropped. According to a study by Oregon State University in 2012, native prey fish populations in the Bahamas fell an average of 65 percent in just two years.

Lionfish first appeared in the western Gulf of Mexico in 2010. Scientists spotted them in the Flower Garden Banks National Marine Sanctuary, a protected area about 100 miles off the Texas coast. Now scuba divers spot them on coral heads nearly every time they explore a reef.

“It’s kind of this impossible battle,” says Michelle Johnston, a researcher at the National Oceanic and Atmospheric Administration in Galveston. “When you think how many are out there, I don’t think eradication is possible now.”

Lionfish are fascinating and beautiful. They grow to about 18 inches and have numerous venomous spines. Their stripes are like those of a zebra. They hang near coral heads or underwater structures where reef fish flourish. They wait for their prey to draw near, then gulp them down in a flash.

The fish mature in a year and females can spawn every four days, pumping out 2 million eggs a year. They live about 15 years.

Lives Anywhere, Eats Anything

In the South Pacific, predators and disease keep lionfish in check. But here, nothing recognizes them as food — those feathery spines serve as do-not-touch warnings to other fish. The few groupers that have been spotted taste-testing lionfish have spit them back out.

In the NOAA Fisheries Science Center in Galveston, Johnston sorts through a rack of glass tubes. Each one contains the stuff found in the stomach of a lionfish collected in the Flower Garden Banks.

She points to a fish called a bluehead wrasse in one jar.

“This little guy should still be on the reef eating algae, not here in a tube,” she says.

Other jars contain brown chromis, red night shrimp, cocoa damselfish and mantis shrimp, all native species found in lionfish bellies. “They’re eating young fish that should be growing up. They’re also eating fish that the native species are supposed to be eating.”

Lionfish can eat anything that fits into their mouth, even fish half their own size. They eat important species, such as snapper and grouper. They're eating so much, that scientists say some are getting too fat.

They can live almost anywhere in the water. They like crevices and holes and can find them on anything from a coral head to a drilling platform to a sunken ship. Their range seems limited only by temperature — they don't seem to go farther north than Cape Hatteras, North Carolina.

"As long as they have something to eat, they'll be there," Johnston says.

REEF Reeling Them In

The effects of their invasion could become widespread, scientists warn.

In the Gulf, lionfish are eating herbivores like damselfish and wrasse, which keep the reef clean. "When you take fish away, coral gets smothered, the reef dies, and we lose larger fish," she says. "It's a snowball effect of negativity."

The only known way to keep lionfish in check here, scientists say, is man.

Scientists don't want to bring in another non-native fish to eat lionfish, for fear of creating another invasion problem, Johnston says.

That's why lionfish fishing tournaments of sorts, are popping up around the Caribbean and Gulf. Locals are encouraged to kill and gather the fish. In some places, including Belize, they cook them up.

"We're never going to be able to eradicate lionfish, but there is a level where the population can be controlled and impacts can be limited," says Klitzkie of REEF.

REEF has organized lionfish tournaments in southern Florida and the Bahamas. Participants have removed more than 12,000 lionfish since the fishing series started in 2009.

In the Gulf, researchers like Johnston have special permits that allow them to remove lionfish when they spot them in the Flower Garden Banks, but they need help. And that takes divers, boats and money.

"It's really an uphill battle," Johnston says. "The second you stop, they come back."

Quiz

- 1 Select the paragraph from "Lives Anywhere, Eats Anything" that shows that lionfish eat a lot.

- 2 Which of the following sentences BEST shows the high reproduction rates of lionfish?
 - (A) Lionfish now are more common in the Bahamas than their home waters.
 - (B) "They're moving into new areas and, when they get settled, the population increases pretty quickly."
 - (C) The lionfish population exploded in the Florida Keys and the Bahamas between 2004 and 2010.
 - (D) The fish mature in a year and females can spawn every four days, pumping out 2 million eggs a year.

- 3 The article introduces lionfish as an invasive species by:
 - (A) giving a detailed description
 - (B) making comparisons
 - (C) quoting trends
 - (D) stating facts

- 4 The article draws a connection between all of the following EXCEPT:
 - (A) lionfish and native prey fish populations in the Bahamas
 - (B) lionfish's reproduction rate and their life span
 - (C) lionfish population and fishing tournaments
 - (D) damselfish and coral reefs